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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/703,428	10/31/2000	Blaine D. Gaither	10001666-1	2979

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EXAMINER

TRAN, LAMBERT L

ART UNIT	PAPER NUMBER
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2144

DATE MAILED: 04/21/2004

7

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/703,428

Applicant(s)

GAITHER ET AL.

Examiner

Lambert L. Tran

Art Unit

2144

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 03 February 2004 (Paper No. 6).
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 31 October 2000 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Response to Request for Reconsideration

1. This Action is in response to the Applicant's Request for Reconsideration filed on 03 February 2004, entered as Paper No. 6.
2. It is noted that the Request for Reconsideration (Paper No. 6) contains neither Paragraph nor Page number. Applicant is requested to provide either Paragraph and/or Page number in subsequent correspondent to the Office for the purpose of communication clarity.
3. Claims 1-36 remain pending.

Priority

4. No claim for priority has been made in this application.

Information Disclosure Statement

5. The Information Disclosure Statement (IDS) filed on 03 February 2004 (Paper No. 5), has been considered by the Examiner (see attached PTO 1449).

Double Patenting

6. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

Art Unit: 2144

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

7. Claims 1-36 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-10 of copending Application No. 09/703427 (HP PDNO 10008316-1). Although the conflicting claims are not identical, they are not patentably distinct from each other because the present claims simply do not provide any processing means with messaging paradigms in the claimed fault tolerant storage system. Neglecting this recited processing means difference, the present claims are broader than the co-pending Application claims, and would necessarily conflict the co-pending Application claims.

8. This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2144

10. Claims 1-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Utter et al., U.S. Patent No 5,815,649, hereinafter referred to as Utter, in view of Byers et al., U.S. Patent No 5,809,543, hereinafter referred to as Byers.

11. In regard to claims 1, 10, 17, 25, 35-36, Utter disclosed a distributed fault tolerant digital data storage system comprising:

a plurality of nodes [see Utter, ABSTRACT, and figure 1];

a fault tolerant storage system (FTSS) [see Utter, ABSTRACT, and figure 1, item (11)]; and

an FTSS interconnection fabric coupling the plurality of nodes to the FTSS [see Utter, ABSTRACT, and figure 1]; *wherein each node includes:*

a network protocol stack for processing network I/O [see Utter, col. 4, lines 41-45];

an interface for sending data to and receiving data from the FTSS interconnection fabric (transmission and retrieval of data) [see Utter, ABSTRACT, and figure 1];

and

a packet conversion unit (switch) for linking the network protocol stack, thereby allowing network traffic to flow between the node and the FTSS via the FTSS interconnection fabric [see Utter, col. 4, lines 1-45];

12. However, Utter did not expressly disclose:

nonvolatile fault-tolerant storage media for storing data;

a file operations unit for completing file I/O operations to the nonvolatile fault tolerant storage media; and

a network routing agent for receiving packets from source nodes of the plurality of nodes, storing packets in the nonvolatile fault-tolerant storage media, and transmitting

packets to destination nodes of the plurality of nodes.

13. In the same field of data processing coupled to host processor systems [see Byers, col. 1, lines 63-65], Byers disclosed a fault tolerant storage system wherein:

nonvolatile fault-tolerant storage media for storing data [see Byers, col. 5, lines 45-53];

a file operations unit for completing file I/O operations to the nonvolatile fault tolerant

storage media [see Byers, col. 12, lines 36-60]; *and*

a network routing agent for receiving packets from source nodes of the plurality of nodes,

storing packets in the nonvolatile fault-tolerant storage media, and transmitting

packets to destination nodes of the plurality of nodes [see Byers, col. 34, lines 12-18]. An

ordinary artisan in the art at the same time the invention was made, would have been motivated to look to a way to improve fault tolerant and quick recovery of data without the necessity of intervention by the computer system's processing elements in a distributed storage subsystem [see Utter, col. 2, lines 10-15].

14. Accordingly, it would have been obvious to one of ordinary skill in the network storage art at the time the invention was made to have incorporated Utter's teachings with the teachings of Byers, for the purpose of providing a system that is highly reliable, and to help alleviate I/O limitation on through put [see Byers, col. 2, lines 3-4, and lines 32-33].

15. For the rationale set forth above, claims 1, 10, 17, 25, 35-36 are rejected.

16. In regard to claims 2-3, 11, 18, 26-27, the combination inventions of Utter and Byers disclosed:

sending an acknowledgment [see Utter, col. 9, lines 22-58].

Art Unit: 2144

17. In regard to claims 4-5, 12, 19-20, 28-29, the combination inventions of Utter and Byers disclosed:

deleting the packet, retaining the packet (processing, discard) [see Utter, col. 6, lines 41-60, see Byers, col. 52, lines 43-58].

18. In regard to claims 6, 13, 21, 30, Byers disclosed *file I/O transaction* [see Byers, col. 12, lines 36-60].

19. In regard to claims 7, 14, 22, 31, the combination inventions of Utter and Byers disclosed:

encapsulating the packet in a protocol (processing and storage nodes) [see Utter, col. 4, lines 41-45, see Byers, col. 12, lines 36-60].

20. In regard to claims 8, 15, 23, 32, Byers disclosed: *storing the packet in a nonvolatile write cache* [see Byers, col. 16, lines 15-26].

21. In regard to claims 9, 16, 24, 33, Byers disclosed: storing the packet in a redundant array of independent disks [see Byers, col. 66, lines 3-4].

22. In regard to claim 34, Utter disclosed: *an external network coupled to the FTSS, wherein the FTSS routes packets between nodes and external network* [see Utter, Figure 1, notes the network (13) and (20) connecting FTSS nodes (16) and (30)].

23. Since all the claims limitations are taught by the combination inventions of Utter and Byers, claims 1-36 are rejected.

Response to Arguments

24. Applicant's intention to file a terminal disclaimer (see first Paragraph of the Remarks, Paper No. 6) to overcome the Double Patenting rejection cited on Paragraphs 6-8 set forth above in this Office action is acknowledged.

25. Applicant's arguments (see third Page of the Remarks, Paper No. 6) with respect to claims 1-36, regarding Muller and Blumenau prior arts of record, have been fully considered and are persuasive. The rejection of claims 1-36, pertaining to Muller and Blumenau, has been withdrawn.

26. Applicant's arguments filed on 03 February 2004 (Paper No. 6), regarding Utter (5,815,649) and Byers (5,809,543) prior arts of record, have been fully considered but they are not persuasive.

27. Applicant's main arguments are that Utter did not *suggest that computer nodes communicate with one another through the storage subsystem* (Page 2 of the Remarks), and Utter did not *mention computer-to-computer networking via an intermediate FTSS* (last page of the Remarks). Examiner would like to point out that in Figure 1, Utter disclosed a Fault-tolerant computer system (11) [See Utter, Figure 1, the dotted block (11)] wherein user terminals (12 a, b) communicated with terminals (12 c, d) through network (13 a, b) and (20 a, b). Regarding the terminals, Utter further disclosed: The user terminals (12) may comprise any of a number of devices, for example, in connection with a digital computer system which may be used in transaction processing system, or telephone system to properly routed information [see Utter,

Art Unit: 2144

col. 3, lines 16-47]. Clearly, Utter disclosed *that computer nodes (12) communicate with one another through the storage subsystem (11).*

Regarding computer-to-computer networking, and store and forward characteristic, Utter disclosed in Column 4, lines 55-62, quoted:

the networks 13(n) may transfer data from the user terminals 12(d) to the fault-tolerant computer system 11 for processing or storage, and in addition may transfer data among the user terminals 12(d). In one embodiment, the networks 13(A) and 13(B) are each in the form of conventional high-speed (100 Mb/second) Ethernet networks, which transfer information in the form of messages.

Clearly, Utter disclosed *computer-to-computer (12) networking (13) via an intermediate FTSS (11).*

Conclusion

28. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

29. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


Art Unit: 2144

30. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lambert L. Tran whose telephone number is (703) 305-4663. The examiner can normally be reached on M-F at 9AM - 5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jack B Harvey can be reached on (703) 305-9705. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

31. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

L.L.T
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April 15, 2004


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